REMARKS

Claims 1 through 13 remain in the application.

Claim 1 was rejected under 35 U.S.C. § 103 as being unpatentable over Reed (U.S. Patent No. 4,292,543) in view of Stevenson (Microsoft Project 98 Bible) and Olson (U.S. Patent No. 6,480,815). Applicant respectfully traverses this rejection.

The United States Supreme Court interpreted the standard for 35 U.S.C. § 103 in Graham v. John Deere, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). In Graham, the Court stated that under 35 U.S.C. § 103:

> The scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or non-obviousness of the subject matter is determined. 148 U.S.P.Q. at 467.

U.S. Patent No. 4,292,543 to Reed, Sr. discloses electrical energy management devices. A method and apparatus reduces the cost of electrical utilities services by minimizing peak loading through the staged and controlled initiation of operation of devices which consume significant quantities of electrical energy during start up periods such as motors, compressors, heating systems, air handling units, and large scale lighting without the use of modulation control devices which directly affect the operation of such devices or the rise time of the power input to the devices upon starting. Controller 10 is programmed such that time blocks are provided to prevent the simultaneous actuation of any two load 4A-4B within a selected time interval, for example one minute, to permit a newly initiated load to achieve normal rate of power consumption prior to initiation of a second load. Reed does not disclose organizing identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the

switches should be closed, organizing the switch group in a data tree structure for the switch sequence plan and traversing the data tree structure recursively to calculate opening and closing times for the switches within the switch sequence plan, and generating a simulation command for setting a position sequence of the switches from the opening and closing times for the switch sequence plan and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system.

The Microsoft Project 98 Bible to Stevenson et al. discloses adding subtasks to major tasks in your project. After you enter the major tasks in your project, you can begin to flesh out the details by adding subordinate tasks, also referred to simply as subtasks. When you add subtasks, the upper-level task becomes a summary task. Summary tasks and subtasks provide an easy-to-apply outline structure to your schedule. Each task is the same length by default, and each beings on the project start date. Although you can move tasks wherever you like, when you move a summary task, its subtasks move with it. If you want to link a whole range of tasks to be consecutive (one finishes, the next begins, and so on down through the list of tasks), select the first task (predecessor), hold down the mouse button, and drag to select a range of predecessor tasks. Stevenson et al. does <u>not</u> disclose identifying switches for an electrical system, organizing identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed, organizing the switch group in a data tree structure for the switch sequence plan, traversing the data tree structure recursively to calculate opening and closing times for the switches within the switch sequence plan, and generating a simulation command for setting a position sequence of the switches from the opening and closing times for the switch sequence plan and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system.

U.S. Patent No. 6,480,815 to Olson et al. discloses path dependent power modeling. FIG. 14 illustrates an overall flow diagram 600 of steps and data files involved in a power estimation process. A library file 610 contains the power modeling structures described above for various different library cells for the integrated circuit design. In the library file 610 are contained the state and path dependent power structures and any 3-D power tables (as described above) for specific library cells. This file 610 is read by a generate directive file process 615 which generates a directive file 620. The simulator process 625 needs to be informed of which library cells have state and/or path dependent modeling so it can output the necessary information used to perform power estimation for these library cells. The simulator process 625 uses the directive file 620 to obtain this information. The directive file 620 contains a listing of specific signal states and transition paths that the simulator 625 is to watch out for, during simulation, that have an impact on power estimation. These states and transitions are defined within the power modeling structures used in the library file 610 for state and/or path dependent modeling. The directive file 620 is needed in part because the number of possible conditions encountered by the simulator 625 is too great to monitor without information used to direct or focus the simulator's recording activity. During simulation 625, a separate record or tally is made of each occurrence of each condition outlined in the directive file 620 and the totals are aggregated over the simulation interval. Simulation process 625 maintains this record in computer readable memory units of system 112 in a switching activity interchange format (SAIF) file 630 which indicates the number of times each event in the directive file 620 occurred over the time interval of the simulation for each library cell. This information includes input transition times for certain input signals. The power analysis process 635 inputs the SAIF file 630 and applies the recorded conditions to the power models of the library file 610 to obtain power estimates based on any state dependent power modeling, any path dependent power modeling and any 3-D power tables

used within the library 610. For each library cell, the relevant counts recorded within the SAIF file 630 are applied to its power model to obtain an estimated power consumption for the library cell. An aggregation of all estimated power consumption amounts is reported in a power report 640. This power report 640 can then be used to determine if the integrated circuit design represented by the power models of the library file 610 meets prescribed power constraints. Olson et al. does not disclose identifying switches for an electrical system, organizing identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed, organizing the switch group in a data tree structure for the switch sequence plan, and traversing the data tree structure recursively to calculate opening and closing times for the switches within the switch sequence plan.

In contradistinction, claim 1 claims the present invention as a method of determining a switch sequence plan for an electrical system. The method includes the steps of identifying switches for the electrical system and organizing the identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed. The method also includes the steps of organizing the switch group in a data tree structure for the switch sequence plan and traversing the data tree structure recursively to calculate opening and closing times for the switches within the switch sequence plan. The method further includes the steps of generating a simulation command for setting a position sequence of the switches from the opening and closing times for the switch sequence plan and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system.

The United States Court of Appeals for the Federal Circuit (CAFC) has stated in determining the propriety of a rejection under 35 U.S.C. § 103, it is well settled that the obviousness of an invention cannot be established by combining the teachings of the prior art absent some teaching, suggestion or incentive supporting the combination. See In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 227 U.S.P.Q. 657 (Fed. Cir. 1985); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 221 U.S.P.Q. 929 (Fed. Cir. 1984). The law followed by our court of review and the Board of Patent Appeals and Interferences is that "[a] prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Rinehart, 531 F.2d 1048, 1051, 189 U.S.P.Q. 143, 147 (C.C.P.A. 1976). See also In re Lalu, 747 F.2d 703, 705, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984) ("In determining whether a case of prima facie obviousness exists, it is necessary to ascertain whether the prior art teachings would appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification.")

As to the differences between the prior art and the claims at issue, Reed, Sr. '543 merely discloses electrical energy management devices in which a method and apparatus reduces the cost of electrical utilities services by minimizing peak loading through the staged and controlled initiation of operation of devices which consume significant quantities of electrical energy during start up periods. Reed, Sr. '543 lacks organizing identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed, organizing the switch group in a data tree structure for the switch sequence plan and traversing the data tree structure recursively to calculate opening and closing times for the

switches within the switch sequence plan, and generating a simulation command for setting a position sequence of the switches from the opening and closing times for the switch sequence plan and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system. Contrary to the Examiner's opinion, Reed, Sr. '543 does not implicitly disclose that the common and default relationship is for all switches to be coincident and closed together because the controller 10 is programmed such that time blocks are provided to prevent the simultaneous actuation of any two load 4A-4B within a selected time interval. It is well settled that inherency may not be established by probabilities or possibilities, but must instead be "the natural result flowing from the operation as taught." See In re Oelrich, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981). Therefore, Reed, Sr. '543 does not organize identified switches within a switch group by defining a coincident group of switches to be closed together.

Stevenson et al. merely discloses adding subtasks to major tasks in your project in which each task is the same length by default, and each beings on the project start date. Stevenson et al. lacks identifying switches for an electrical system, organizing identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed, organizing the switch group in a data tree structure for the switch sequence plan, traversing the data tree structure recursively to calculate opening and closing times for the switches within the switch sequence plan, and generating a simulation command for setting a position sequence of the switches from the opening and closing times for the switch sequence plan and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system. In Stevenson et al., a whole range of tasks may be consecutive (one finishes, the next begins, and so on down through the list of tasks), but does

not organize identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed. Contrary to the Examiner's opinion, switches are not tasks. Further, while Stevenson et al. discloses that each task beings on the project start date, it does not inherently or explicitly disclose that all the tasks start together (coincident), but rather consecutive (one finishes, the next begins, and so on down through the list of tasks). Therefore, Stevenson et al. does not disclose organizing identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time.

Olson et al. '815 merely discloses path dependent power modeling in which a separate record or tally is made of each occurrence of each condition outlined in a directive file and the totals are aggregated over the simulation interval and the relevant counts recorded within a SAIF file are applied to its power model to obtain an estimated power consumption for a library cell. Olson et al. '815 lacks identifying switches for an electrical system, organizing identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed, organizing the switch group in a data tree structure for the switch sequence plan, and traversing the data tree structure recursively to calculate opening and closing times for the switches within the switch sequence plan. In Olson et al. '186, the power analysis process 635 inputs the SAIF file 630 and applies the recorded conditions to the power models of the library file 610 to obtain power estimates based on any state dependent power modeling, any path dependent power modeling and any 3-D power tables used within the library 610. Contrary to the Examiner's opinion, there is no position sequence for switches. Further, while Olson et al. '186 uses a simulator for switching activity and a power analysis to obtain power estimates, it

does not inherently or explicitly disclose setting a position sequence of the switches. Therefore, Olson et al. '186 does not disclose generating a simulation command for setting a position sequence of the switches from the opening and closing times for the switch sequence plan and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system. As such, there is no motivation in the art to combine Reed, Sr. '543, Stevenson et al., and Olson et al. '186 together.

There is absolutely no teaching of a level of skill in the electrical switch art of organizing identified switches within a switch group by defining a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed, organizing the switch group in a data tree structure, traversing the data tree structure, generating a simulation command for setting a position sequence of the switches, and using the commands within the switch sequence to operatively control the switches in a simulation. The Examiner may not, because he doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. See In re Warner, 379 F. 2d 1011, 154 U.S.P.Q. 173 (C.C.P.A. 1967).

The present invention sets forth a unique and non-obvious combination of a method of determining a switch sequence plan for an electrical system that hierarchically organizes the switches in nested groups and determines the exact time in the simulation that the switches open or close, so that switches can be added or removed without manually cascading time changes through all of the switches. The references, if combinable, fail to teach or suggest the combination of a method of determining a switch sequence plan for an electrical system including the steps of identifying switches for the electrical system, organizing the identified switches within a switch group by defining a coincident group of switches to be closed together

or a sequential group of switches to be closed one at a time and by defining a duration of time the switches should be closed, organizing the switch group in a data tree structure for the switch sequence plan, traversing the data tree structure recursively to calculate opening and closing times for the switches within the switch sequence plan, generating a simulation command for setting a position sequence of the switches from the opening and closing times for the switch sequence plan, and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system as claimed by Applicant. The Examiner has failed to establish a case of prima facie obviousness. Therefore, it is respectfully submitted that claim 1 is allowable over the rejection under 35 U.S.C. § 103.

Claims 2 through 6 were rejected under 35 U.S.C. § 103 as being unpatentable over Reed '543 in view of Stevenson and Olson '815. Applicant respectfully traverses this rejection for the same reasons given above to claim 1.

Claim 7 was rejected under 35 U.S.C. § 103 as being unpatentable over Reed '543 in view of Stevenson and Olson '815. Applicant respectfully traverses this rejection.

As to claim 7, claim 7 claims the present invention as a method of determining a switch sequence plan for an electrical system. The method includes the steps of identifying switches from a circuit schematic of the electrical system and selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system. The method also includes the steps of organizing the identified switches within a switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time. The method includes the steps of defining a duration of time the switches in the sequential switch group or coincident switch group should be closed and organizing the switch group in a data tree structure for the switch sequence plan. The method further includes traversing the data tree structure recursively to calculate opening and closing

times for the switches in the sequential switch group or coincident switch group for the switch sequence plan. The method includes the steps of generating a simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group from the opening and closing times for the switch sequence plan and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system.

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 7. Specifically, Reed, Sr. '543 <u>merely</u> discloses electrical energy management devices in which a method and apparatus reduces the cost of electrical utilities services by minimizing peak loading through the staged and controlled initiation of operation of devices which consume significant quantities of electrical energy during start up periods. Reed, Sr. '543 lacks selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system, organizing the identified switches within a switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group should be closed, organizing the switch group in a data tree structure for the switch sequence plan, traversing the data tree structure recursively to calculate opening and closing times for the switches in the sequential switch group or coincident switch group for the switch sequence plan, generating a simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group from the opening and closing times for the switch sequence plan, and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system. Contrary to the Examiner's opinion, Reed, Sr. '543 does <u>not</u> implicitly disclose that the common and default relationship is for all switches to

be coincident and closed together because the controller 10 is programmed such that time blocks are provided to prevent the simultaneous actuation of any two load 4A-4B within a selected time interval. It is well settled that inherency may not be established by probabilities or possibilities, but must instead be "the natural result flowing from the operation as taught." See In re Oelrich, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981). Therefore, Reed, Sr. '543 does not organize identified switches within a switch group by defining a coincident group of switches to be closed together.

Stevenson et al. merely discloses adding subtasks to major tasks in your project in which each task is the same length by default, and each beings on the project start date. Stevenson et al. lacks identifying switches from a circuit schematic of the electrical system, selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system, organizing the identified switches within a switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group should be closed, organizing the switch group in a data tree structure for the switch sequence plan, traversing the data tree structure recursively to calculate opening and closing times for the switches in the sequential switch group or coincident switch group for the switch sequence plan, generating a simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group from the opening and closing times for the switch sequence plan, and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system. In Stevenson et al., a whole range of tasks may be consecutive (one finishes, the next begins, and so on down through the list of tasks), but does not organize identified switches within a switch group by nesting within each other a coincident group of switches to be closed together or a sequential

group of switches to be closed one at a time. Contrary to the Examiner's opinion, switches are not tasks. Further, while Stevenson et al. discloses that each task beings on the project start date, it does not inherently or explicitly disclose that all the tasks start together (coincident), but rather consecutive (one finishes, the next begins, and so on down through the list of tasks). Therefore, Stevenson et al. does not disclose organizing identified switches within a switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and defining a duration of time the switches in the sequential switch group or coincident switch group should be closed.

Olson et al. '815 merely discloses path dependent power modeling in which a separate record or tally is made of each occurrence of each condition outlined in a directive file and the totals are aggregated over the simulation interval and the relevant counts recorded within a SAIF file are applied to its power model to obtain an estimated power consumption for a library cell. Olson et al. '815 lacks identifying switches from a circuit schematic of the electrical system, selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system, organizing the identified switches within a switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group should be closed, and organizing the switch group in a data tree structure for the switch sequence plan, traversing the data tree structure recursively to calculate opening and closing times for the switches in the sequential switch group or coincident switch group for the switch sequence plan. In Olson et al. '186, the power analysis process 635 inputs the SAIF file 630 and applies the recorded conditions to the power models of the library file 610 to obtain power estimates based on any state dependent power modeling, any path dependent power modeling and any 3-D power tables used within the library 610. Contrary to the

Examiner's opinion, there is no position sequence for switches. Further, while Olson et al. '186 uses a simulator for switching activity and a power analysis to obtain power estimates, it does not inherently or explicitly disclose setting a position sequence of the switches. Therefore, Olson et al. '186 does not disclose generating a simulation command for setting a position sequence of switches within a sequential switch group or coincident switch group from the opening and closing times for a switch sequence plan, and using the commands within the switch sequence plan to operatively control the switches in a simulation of an electrical system. As such, there is no motivation in the art to combine Reed, Sr. '543, Stevenson et al., and Olson et al. '186 together.

There is absolutely no teaching of a level of skill in the electrical switch art of organizing identified switches within a switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group should be closed, organizing the switch group in a data tree structure, traversing the data tree structure recursively, generating a simulation command for setting a position sequence of the switches, and using the commands to operatively control the switches in a simulation. The Examiner may not, because he doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. See In re Warner, 379 F. 2d 1011, 154 U.S.P.Q. 173 (C.C.P.A. 1967).

The present invention sets forth a unique and non-obvious combination of a method of determining a switch sequence plan for an electrical system that hierarchically organizes the switches in nested groups and determines the exact time in the simulation that the switches open or close, so that switches can be added or removed without manually cascading time changes through all of the switches. The references, if combinable, fail to teach or suggest

the combination of a method of determining a switch sequence plan for an electrical system including the steps of identifying switches from a circuit schematic of the electrical system, selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system, organizing the identified switches within a switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group should be closed, organizing the switch group in a data tree structure for the switch sequence plan, traversing the data tree structure recursively to calculate opening and closing times for the switches in the sequential switch group or coincident switch group for the switch sequence plan, generating a simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group from the opening and closing times for the switch sequence plan, and using the commands within the switch sequence plan to operatively control the switches in a simulation of the electrical system as claimed by Applicant.

Further, the CAFC has held that "[t]he mere fact that prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification". In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). The Examiner has failed to show how the prior art suggested the desirability of modification to achieve Applicant's invention. Thus, the Examiner has failed to establish a case of prima facie obviousness. Therefore, it is respectfully submitted that claim 7 is allowable over the rejection under 35 U.S.C. § 103.

Claims 8 through 10 were rejected under 35 U.S.C. § 103 as being unpatentable over Reed '543 in view of Stevenson and Olson '815. Applicant respectfully traverses this rejection for the same reasons given above to claim 7.

Claim 11 was rejected under 35 U.S.C. § 103 as being unpatentable over Reed '543 in view of Stevenson and Olson '815. Applicant respectfully traverses this rejection.

As to claim 11, claim 11 claims the present invention as a method of determining a switch sequence plan for an electrical system. The method includes the steps of identifying switches from a circuit schematic of the electrical system and selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system. The method also includes the steps of organizing the identified switches within a top level switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time. The method includes the steps of defining a duration of time the switches in the sequential switch group or coincident switch group within the top level switch group should be closed and organizing the top level switch group in a data tree structure for the switch sequence plan by nesting lower level sequential switch groups or coincident switch groups within higher level sequential switch groups or coincident switch groups. The method further includes the steps of traversing the data tree structure recursively to calculate opening and closing times for the switches within the sequential switch group or coincident switch group within the top level switch group for the switch sequence plan. The method includes the steps of generating a simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group within the top level switch group from the opening and closing times for the switch sequence plan. The method includes the steps of using the switch commands within the sequence plan to operatively control the switches in a simulation of the electrical system.

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 11. Specifically, Reed, Sr. '543 <u>merely</u> discloses electrical energy management devices in which a method and apparatus reduces the cost of

electrical utilities services by minimizing peak loading through the staged and controlled initiation of operation of devices which consume significant quantities of electrical energy during start up periods. Reed, Sr. '543 lacks selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system, organizing the identified switches within a top level switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group within the top level switch group should be closed, organizing the top level switch group in a data tree structure for the switch sequence plan by nesting lower level sequential switch groups or coincident switch groups within higher level sequential switch groups or coincident switch groups, traversing the data tree structure recursively to calculate opening and closing times for the switches within the sequential switch group or coincident switch group within the top level switch group for the switch sequence plan, generating a simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group within the top level switch group from the opening and closing times for the switch sequence plan, and using the switch commands within the sequence plan to operatively control the switches in a simulation of the electrical system. Contrary to the Examiner's opinion, Reed, Sr. '543 does not implicitly disclose that the common and default relationship is for all switches to be coincident and closed together because the controller 10 is programmed such that time blocks are provided to prevent the simultaneous actuation of any two load 4A-4B within a selected time interval. It is well settled that inherency may not be established by probabilities or possibilities, but must instead be "the natural result flowing from the operation as taught." See In re Oelrich, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981). Therefore, Reed, Sr. '543 does not organize the identified switches within a top level switch group by nesting within each other a coincident

group of switches to be closed together or a sequential group of switches to be closed one at a time.

Stevenson et al. merely discloses adding subtasks to major tasks in your project in which each task is the same length by default, and each beings on the project start date. Stevenson et al. lacks identifying switches from a circuit schematic of an electrical system, selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system, organizing the identified switches within a top level switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group within the top level switch group should be closed, organizing the top level switch group in a data tree structure for the switch sequence plan by nesting lower level sequential switch groups or coincident switch groups within higher level sequential switch groups or coincident switch groups, traversing the data tree structure recursively to calculate opening and closing times for the switches within the sequential switch group or coincident switch group within the top level switch group for the switch sequence plan, generating a simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group within the top level switch group from the opening and closing times for the switch sequence plan, and using the switch commands within the sequence plan to operatively control the switches in a simulation of the electrical system. In Stevenson et al., a whole range of tasks may be consecutive (one finishes, the next begins, and so on down through the list of tasks), but does not organize identified switches within a top level switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time. Contrary to the Examiner's opinion, switches are not tasks. Further, while Stevenson et al. discloses that each task beings on the

project start date, it does not inherently or explicitly disclose that all the tasks start together (coincident), but rather consecutive (one finishes, the next begins, and so on down through the list of tasks). Therefore, Stevenson et al. does not disclose organizing identified switches within a top level switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and defining a duration of time the switches in the sequential switch group or coincident switch group within the top level switch group should be closed.

Olson et al. '815 merely discloses path dependent power modeling in which a separate record or tally is made of each occurrence of each condition outlined in a directive file and the totals are aggregated over the simulation interval and the relevant counts recorded within a SAIF file are applied to its power model to obtain an estimated power consumption for a library cell. Olson et al. '815 lacks identifying switches from a circuit schematic of the electrical system, selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system, organizing the identified switches within a top level switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group within the top level switch group should be closed, organizing the top level switch group in a data tree structure for the switch sequence plan by nesting lower level sequential switch groups or coincident switch groups within higher level sequential switch groups or coincident switch groups, and traversing the data tree structure recursively to calculate opening and closing times for the switches within the sequential switch group or coincident switch group within the top level switch group for the switch sequence plan. In Olson et al. '186, the power analysis process 635 inputs the SAIF file 630 and applies the recorded conditions to the power models of the library file 610 to obtain power estimates based

on any state dependent power modeling, any path dependent power modeling and any 3-D power tables used within the library 610. Contrary to the Examiner's opinion, there is no position sequence for switches. Further, while Olson et al. '186 uses a simulator for switching activity and a power analysis to obtain power estimates, it does not inherently or explicitly disclose setting a position sequence of the switches. Therefore, Olson et al. '186 does not disclose generating a simulation command for setting a position sequence of switches within a sequential switch group or coincident switch group within a top level switch group from the opening and closing times for a switch sequence plan, and using the switch commands within the sequence plan to operatively control the switches in a simulation of the electrical system. As such, there is no motivation in the art to combine Reed, Sr. '543, Stevenson et al., and Olson et al. '186 together.

Even if these references could be combined, none of the references teaches organizing identified switches within a top level switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time and defining a duration of time the switches in the sequential switch group or coincident switch group within the top level switch group should be closed. Applicant is not attacking the references individually, but is clearly pointing out that each reference is deficient and, if combined (although Applicant maintains that they are not combinable), the combination is deficient. The present invention sets forth a unique and non-obvious combination of a method of determining a switch sequence plan for an electrical system that hierarchically organizes the switches in nested groups and determines the exact time in the simulation that the switches open or close, so that switches can be added or removed without manually cascading time changes through all of the switches. The references, if combinable, fail to teach or suggest the combination of a method of determining a switch sequence plan for an electrical system

including the steps of identifying switches from a circuit schematic of the electrical system, selecting an individual switch or a group of switches from a list displayed on a video terminal of a computer system, organizing the identified switches within a top level switch group by nesting within each other a coincident group of switches to be closed together or a sequential group of switches to be closed one at a time, defining a duration of time the switches in the sequential switch group or coincident switch group within the top level switch group should be closed, organizing the top level switch group in a data tree structure for the switch sequence plan by nesting lower level sequential switch groups or coincident switch groups within higher level sequential switch groups or coincident switch groups, traversing the data tree structure recursively to calculate opening and closing times for the switches within the sequential switch group or coincident switch group within the top level switch group for the switch sequence plan, generating simulation command for setting a position sequence of the switches within the sequential switch group or coincident switch group within the top level switch group from the opening and closing times for the switch sequence plan, and using the switch commands within the sequence plan to operatively control the switches in a simulation of the electrical system as claimed by Applicant. The Examiner has failed to establish a case of prima facie obviousness. Therefore, it is respectfully submitted that claim 11 is allowable over the rejection under 35 U.S.C. § 103.

Claims 12 and 13 were rejected under 35 U.S.C. § 103 as being unpatentable over Reed '543 in view of Stevenson and Olson '815. Applicant respectfully traverses this rejection for the same reasons given above to claim 11.

Obviousness under § 103 is a legal conclusion based on factual evidence (In re Fine, 837 F.2d 1071, 1073, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988), and the subjective opinion of the Examiner as to what is or is not obvious, without evidence in support thereof, does not

suffice. Since the Examiner has not provided a sufficient factual basis, which is supportive of his/her position (see In re Warner, 379 F.2d 1011, 1017, 154 U.S.P.Q. 173, 178 (C.C.P.A. 1967), cert. denied, 389 U.S. 1057 (1968)), the rejections of claims 1 through 13 are improper. Therefore, it is respectfully submitted that claims 1 through 13 are allowable over the rejection under 35 U.S.C. § 103.

Based on the above, it is respectfully submitted that the claims are in a condition for allowance or in better form for appeal. Applicant respectfully requests reconsideration of the claims and withdrawal of the final rejection. It is respectfully requested that this Amendment be entered under 37 C.F.R. 1.116.

Respectfully submitted,

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